1. (Unchanged) A method for allocating processor resources in a computer system having a plurality of central processors, comprising the steps of:

defining a plurality of logical partitions of said computer system, wherein each task executing in said computer system is assigned to a respective one of said logical partitions;

defining a plurality of sets of processors;

assigning each central processor of said multi-processor system to a respective set of said plurality of processor sets;

assigning each logical partition of said plurality of logical partitions to a respective set of said plurality of processor sets, wherein a first processor set of said plurality of processor sets has a plurality of logical partitions assigned to it;

assigning a respective processing capacity value to each of said plurality of logical partitions assigned to said first set, said capacity values representing processing capacity in units equivalent to a fixed number of physical central processors;

constraining tasks executing in a each logical partition to execute only in central processors assigned to the processor set to which the respective logical partition is assigned; and

constraining tasks executing in said each logical partition assigned to said first processor set to execute for a combined length of time equivalent to the processing capacity value assigned to the respective logical partition.

2. (Unchanged) The method for allocating processor resources of claim 1, further comprising:

designating each respective logical partition assigned to said first processor set as either capped or uncapped;

wherein, with respect to a logical partition which is designated capped, said step of constraining tasks executing in the logical partition to execute for a combined length of time equivalent to the processing capacity value comprises preventing tasks in the partition from executing if the processing capacity value has been reached; and

wherein, with respect to a logical partition which is designated uncapped, said step of constraining tasks executing in the logical partition to execute for a combined length of time equivalent to the processing capacity value comprises preventing tasks in the partition from executing if the processing capacity value has been reached, unless there is unused processing capacity in the first processor set.

3. (Unchanged) The method for allocating processor resources of claim 1, further comprising:

assigning a respective number of virtual processors to each of said plurality of logical partitions assigned to said first processor set..

4. (Unchanged) The method for allocating processor resources of claim 1, wherein a second processor set of said plurality of processor sets has a plurality of logical partitions assigned to it, said method further comprising:

assigning a respective processing capacity value to each of said plurality of logical partitions assigned to said second set, said capacity values representing processing capacity in units equivalent to a fixed number of physical central processors; and

constraining tasks executing in said each logical partition assigned to said second processor set to execute for a combined length of time equivalent to the processing capacity value assigned to the respective logical partition.

5. (Unchanged) A computer system, comprising:

a plurality of central processing units;

a logical partitioning configuration function which receives a user definition of a plurality of logical partitions of said computer system and a plurality of disjoint sets of said central processing units, each logical partition being assigned to a respective one of said plurality of disjoint sets of central processing units, said logical partitioning configuration function supporting the assignment of a plurality of multiple logical partitions to a single central processing unit set;

wherein, with respect to multiple logical partitions assigned to a single central processing unit set, said logical partitioning configuration function receives a user definition of a respective processing capacity value for each of said multiple logical partitions, said processing capacity values representing processing capacity in units equivalent to a fixed number of said central processing units; and

a logical partitioning enforcement function which constrains tasks executing in each logical partition to execute only in central processor units of the set of central processing units to which the respective logical partition is assigned, and constrains tasks executing in said each said multiple logical partition assigned to a single central processing unit set to execute for a combined length of time equivalent to the processing capacity value assigned to the respective logical partition.

6. (Unchanged) The computer system of claim 5,

wherein each logical partition contains a respective task dispatching function;

wherein said logical partitioning enforcement function comprises a respective low-level virtual processor dispatcher for each set of central processing units operating below the level of said task dispatching functions, said task dispatching functions dispatching tasks to virtual processors, said virtual processor dispatchers dispatching said virtual processors to said central processing units.

7. (New) The computer system of claim 5,

wherein, with respect to multiple logical partitions assigned to a single central processing unit set, said logical partitioning configuration function further receives a user designation of each respective partition as capped or uncapped;

wherein, with respect to a logical partition which is designated capped, said logical partitioning enforcement mechanism prevents tasks in the logical partition from executing if the processing capacity value of the logical partition has been reached; and

wherein, with respect to a logical partition which is designated uncapped, said logical partitioning enforcement mechanism prevents tasks in the logical partition from executing if the processing capacity value of the logical partition has been reached, unless there is unused processing capacity in the first processor set.

8. (New) The computer system of claim 5,

wherein, with respect to multiple logical partitions assigned to a single central processing unit set, said logical partitioning configuration function further receives a user designation of a respective number of virtual processors for each such logical partitions; and

wherein said logical partitioning enforcement mechanism limits simultaneous execution of tasks of a logical partition of multiple logical partitions assigned to a single central processing unit set to the number of virtual processors assigned to the logical partition.

9. (New) The method for allocating processor resources of claim 1, further comprising:

altering a processor capacity value of a first logical partition assigned to said first set, while holding a processor capacity value of a second logical partition assigned to said first set constant.

10. (New) The method for allocating processor resources of claim 1, wherein at least one processor set of said plurality of processor sets has only a single logical partition assigned to it.

11. (New) A computer program product for allocating processor resources in a computer system having a plurality of central processors, said computer program product comprising a plurality of computer executable instructions recorded on signal-bearing media, wherein said instructions, when executed by a computer, cause the computer to perform the steps of:

receiving a definition of a plurality of logical partitions of said computer system, wherein each task executing in said computer system is assigned to a respective one of said logical partitions;

receiving a definition of a plurality of sets of processors, wherein each central processor of said computer system is assigned to a respective one of said plurality of sets of processors, and wherein each logical partition of said plurality of logical partitions is assigned to a respective one of said plurality of sets of processors, wherein a first processor set of said plurality of processor sets has a plurality of logical partitions assigned to it;

receiving a definition of processing capacity values, wherein a respective processing capacity value is assigned to each of said plurality of logical partitions assigned to said first set, said capacity values representing processing capacity in units equivalent to a fixed number of physical central processors;

constraining tasks executing in a each logical partition to execute only in central processors assigned to the processor set to which the respective logical partition is assigned; and

constraining tasks executing in said each logical partition assigned to said first processor set to utilize the processing capacity value assigned to the respective logical partition.

12. (New) The computer program product for allocating processor resources of claim 11, wherein said program product further causes said computer to perform the steps of:

receiving a designation of each respective logical partition assigned to said first processor set as either capped or uncapped;

wherein, with respect to a logical partition which is designated capped, said step of constraining tasks executing in the logical partition to utilize the processing capacity value assigned to the respective logical partition comprises preventing tasks in the partition from executing if the processing capacity value has been reached; and

wherein, with respect to a logical partition which is designated uncapped, said step of constraining tasks executing in the logical partition to utilize the processing capacity value assigned to the respective logical partition comprises preventing tasks in the partition from executing if the processing capacity value has been reached, unless there is unused processing capacity in the first processor set.

13. (New) The computer program product for allocating processor resources of claim 11, wherein said program product further causes said computer to perform the steps of:

receiving a designation of a respective number of virtual processors for each of said plurality of logical partitions assigned to said first processor set..

14. (New) The computer program product for allocating processor resources of claim 11, wherein a second processor set of said plurality of processor sets has a plurality of logical partitions assigned to it;

wherein a respective processing capacity value is assigned to each of said plurality of logical partitions assigned to said second set by said step of receiving a definition of processing capacity values, said capacity values representing processing capacity in units equivalent to a fixed number of physical central processors; and

wherein tasks executing in said each logical partition assigned to said second processor set to are constrained to utilize the processing capacity value assigned to the respective logical partition.

15. (New) The computer program product for allocating processor resources of claim 11, wherein said program product further causes said computer to perform the steps of:

altering a processor capacity value of a first logical partition assigned to said first set responsive to user input, while holding a processor capacity value of a second logical partition assigned to said first set constant.

16. (New) The computer program product for allocating processor resources of claim 11, wherein at least one processor set of said plurality of processor sets has only a single logical partition assigned to it.